

WHAT IS CLAIMED IS:

1. An isolated nucleic acid consisting of a nucleotide sequence set forth in SEQ ID NO: 2 or SEQ ID NO: 22.
- 5 2. A primer for the detection of cucumber mosaic virus (CMV)-resistant plants, which comprises consecutive nucleotides selected from a nucleotide sequence set forth in SEQ ID NO: 2 or SEQ ID NO: 22.
- 10 3. The primer of Claim 2, wherein the primer has a nucleotide sequence selected from SEQ ID NO: 1 and SEQ ID NO: 23 to SEQ ID NO: 28.
4. A kit for the detection of CMV-resistant plant, which comprises the nucleic acid of Claim 1 or the primer of Claim 2.
- 15 5. A method for the detection of a CMV-resistant plant, comprising the step of analyzing the genomic DNA of a plant in the presence of the nucleic acid of Claim 1 or the primer of Claim 2.
- 20 6. The method of Claim 5, wherein the analysis is performed by any one method selected from the group consisting of RFLP (restriction fragment length polymorphism), RAPD (randomly amplified polymorphic DNA), DAF (DNA amplification fingerprinting), AP-PCR (arbitrarily primed PCR), STS (sequence tagged site), EST (expressed sequence tag), SCAR (sequence characterized amplified
25 regions), ISSR (inter-simple sequence repeat amplification), AFLP (amplified

fragment length polymorphism), CAPS (cleaved amplified polymorphic sequence) and PCR-SSCP (PCR-single strand conformation polymorphism).

7. The method of Claim 5, wherein the plant is selected from the group consisting of cucumber, watermelon, red pepper, melon, Chinese cabbage, tobacco, Petunia, cotton, and rose.

8. A method for determining the genotype of a CMV-resistant plant, comprising the step of analyzing the genomic DNA of a plant in the presence of the nucleic acid of Claim 1 or the primer of Claim 2.

9. The method of Claim 8, wherein the analysis is performed by any one method selected from the group consisting of RFLP (restriction fragment length polymorphism), RAPD (randomly amplified polymorphic DNA), DAF (DNA amplification fingerprinting), AP-PCR (arbitrarily primed PCR), STS (sequence tagged site), EST (expressed sequence tag), SCAR (sequence characterized amplified regions), ISSR (inter-simple sequence repeat amplification), AFLP (amplified fragment length polymorphism), CAPS (cleaved amplified polymorphic sequence), and PCR-SSCP (PCR-single strand conformation polymorphism).

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10. The method of Claim 8, wherein the plant is selected from the group consisting of cucumber, watermelon, red pepper, melon, Chinese cabbage, tobacco, Petunia, cotton, and rose.

11. A CMV-resistant plant which reproduces asexually by tissue culture and

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comprises a nucleic acid consisting of a nucleotide sequence set forth in SEQ ID NO: 2 or SEQ ID NO: 22.

12. The CMV-resistant plant of Claim 11, wherein the plant is selected from
5 the group consisting of cucumber, watermelon, red pepper, melon, Chinese cabbage, tobacco, Petunia, cotton, and rose.

13. A seed which is obtained from the CMV-resistant plant of Claim 11 or
claim 12 and comprises a nucleic acid consisting of a nucleotide sequence set forth in
10 SEQ ID NO: 2 or SEQ ID NO: 22.